

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
9 December 2004 (09.12.2004)

PCT

(10) International Publication Number  
**WO 2004/106556 A3**

(51) International Patent Classification<sup>7</sup>: **C12Q 1/68**

(21) International Application Number:  
PCT/US2004/016376

(22) International Filing Date: 22 May 2004 (22.05.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/473,054 23 May 2003 (23.05.2003) US  
60/472,967 23 May 2003 (23.05.2003) US

(71) Applicant (for all designated States except US): **ASTRAZENECA AB** [SE/SE]; Global Intellectual Property, S-151 85 Södertälje (SE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **CHEN, Guo, Qiang** [CN/US]; AstraZeneca R & D Boston, 35 Gatehouse Drive, Waltham, MA 02451 (US). **LIU, CE, Feng** [CN/US]; AstraZeneca R & D Boston, 35 Gatehouse Drive, Waltham, MA 02451 (US).

(74) Agent: **McCORMACK, Christine**; AstraZeneca Pharmaceuticals, 35 Gatehouse Drive, Waltham, MA 02451 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:  
17 February 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **FLUORESCENCE-BASED DNA PRIMASE ASSAYS**

(57) Abstract: The present invention provides methods for assaying the activity of DNA primases and methods for screening for compounds that modulate the activity of DNA primases.

WO 2004/106556 A3

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/US2004/016376

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12Q1/68

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12Q C12N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, BIOSIS, EMBASE, MEDLINE

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 98/59044 A (TULARIK INC) 30 December 1998 (1998-12-30) the whole document page 7 - page 12 page 23 - page 25, line 8 page 27 - page 29	1-20
A	SWART J R ET AL: "PRIMER SYNTHESIS KINETICS BY ESCHERICHIA COLI PRIMASE ON SINGLE- STRANDED DNA TEMPLATES" BIOCHEMISTRY, AMERICAN CHEMICAL SOCIETY. EASTON, PA, US, vol. 34, 1995, pages 16097-16106, XP002911364 ISSN: 0006-2960 the whole document figure 2a	



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

### \* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the International filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the International filing date but later than the priority date claimed

- \*T\* later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*Z\* document member of the same patent family

Date of the actual completion of the International search

15 December 2004

Date of mailing of the International search report

29/12/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Pinta, V

# INTERNATIONAL SEARCH REPORT

International Application No.

PCT/US2004/016376

## C-(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>FRICK D N ET AL: "Interaction of bacteriophage T7 gene 4 primase with its template recognition site."  THE JOURNAL OF BIOLOGICAL CHEMISTRY. 10 DEC 1999,  vol. 274, no. 50,  10 December 1999 (1999-12-10), pages  35889-35898, XP002309417  ISSN: 0021-9258  the whole document</p>	
A	<p>WO 00/58270 A (BOEHRINGER INGELHEIM CA LTD; LIUZZI MICHELE (CA); SIMONEAU BRUNO (CA)) 5 October 2000 (2000-10-05)  the whole document</p>	

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US2004/016376

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
WO 9859044	A	30-12-1998	US	6043038 A	28-03-2000
			AU	7986398 A	04-01-1999
			WO	9859044 A1	30-12-1998
WO 0058270	A	05-10-2000	AT	253552 T	15-11-2003
			AU	3412800 A	16-10-2000
			WO	0058270 A2	05-10-2000
			CA	2363690 A1	05-10-2000
			DE	60006368 T2	13-05-2004
			DK	1165494 T3	23-02-2004
			EP	1165494 A2	02-01-2002
			ES	2204538 T3	01-05-2004
			JP	2002540185 T	26-11-2002
			PT	1165494 T	31-03-2004
			US	6323202 B1	27-11-2001